Fermilab — Fermi National Accelerator Laboratory

Technical Division-Machine Shop

Welder Performance Qualification Record

In accordance with WPS Cajon/Orbital 002

Date: *3/12/2010***

Revision:	Revision Date :	Remarks:

Welders Name:	*Leonard Harbacek*	**Fermi ID#**	*12261N*	**Weld Stamp**	**8**
WPS Number:	*Fermi Cajon/Orbital 002*	**Test Coupon**	~~**Production Weld**~~ *N/A*		
Welding Process/Type	*GTAW/Orbital*	*Automatic*			
Type of Joint Welded:	*Pipe Groove Weld*	**Joint Types Qualified:**	*Groove and Fillet Welds*		
Base Metals Welded:	*P8, Group 1 to P8, Group 1*				

Welder Variables (QW-350)	Actual Variables Used	Range Qualified
AWS Classification:		
Filler Metal Specification (SFA)	*N/A*	*"See Notes for Qualified Range"*
Filler Metal F-No.	*N/A*	
Filler Metal Product Form	*N/A*	
Consumable Insert	*No Insert Used*	*Without Insert*
P- or S- Number to P- or S- Number:	*P8, Group 1*	*All Qualified Materials*
Base Metal Thickness (inches):	*.035*	*WPS Limits*
Pipe Diameter (inches):	*.500*	*Unlimited*
Deposit Thickness (inches)	*.035*	*WPS Limits*
Welding Position/Progression	*5G*	*All*
Backing Gas	*Argon 99.9%*	
GTAW-Current/Polarity	*DCEN/Pulsing*	

Machine Welding Variables (QW-360)	Actual Variables	Range Qualified
Direct/Remote Visual Control	*N/A*	*N/A*
Automatic Voltage Control	*N/A*	*N/A*
Automatic Joint Tracking	*N/A*	*N/A*
Welding Position	*N/A*	*N/A*
Consumable Insert	*N/A*	*N/A*
Backing	*N/A*	*N/A*
Single/Multiple Pass Per Side	*N/A*	*N/A*

Fillet Welds: *Qualified to make fillet welds of any size on all base material thickness and pipe diameters of any size.*
Notes: ***Qualified for all Qualified Welding Procedures using GTAW/Automatic Welding Process***

ASME IX Guided Bend Test (QW-160)				ASME IX Weld Tensil (QW 150)		
Face Bend #1	*Acceptable*	**Root Bend #1**	*Acceptable*	**Specimen 001**	*Ductile-BM*	**Test Reference No.**
Face Bend #2	*Acceptable*	**Root Bend #2**	*Acceptable*	**Specimen 002**	*Ductil-BM*	*T 000500*

Visual examination results: *Visual exam satisfactory per QW-302.4 and QW-194*

Radiographic test results: *N/A*	Radiographic tests conducted by:	*N/A*

Mechanical Tests Conducted by: *Exova Materials Testing Laboratory*

Welding of Test Coupon conducted by: *Fermi National Accelerator Laboratory*	Verification Number	*12282009-2RH*

We certify that the statements in this record are correct and that the test coupons were prepared, welded, and tested in accordance with the requirements of Section IX of the ASME Boiler and Pressure Vessel Code.

Fermi National Accelerator Laboratory Roger Hiller — Authorized Representative — 3/12/2010 — Date